National Semiconductor

LM1577/LM2577 Series
SIMPLE SWITCHER™ Step-Up Voltage Regulator

General Description

The LM1577/LM2577 are monolithic integrated circuits that provide all of the power and control functions for step-up (boost), flyback, and forward converter switching regulators. The device is available in three different output voltage versions: 12V, 15V, and adjustable.

Requiring a minimum number of external components, these regulators are cost effective, and simple to use. Listed in this data sheet are a family of standard inductors and flyback transformers designed to work with these switching regulators.

Included on the chip is a 3.0A NPN switch and its associated protection circuity, consisting of current and thermal limiiting, and undervoltage lockout. Other features include a 52 kHz fixed-frequency oscillator that requires no external comiponents, a soft start mode to reduce in-rush current during start-up, and current mode control for improved rejection of input voltage and output load transients.

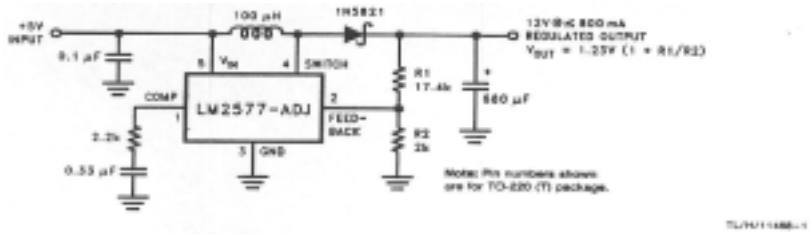
Features

- Requires few external components
- NPN output switches 3.0A, can stand off 65V
- Wide input voltage range: 3.5V to 40V
- Current-mode operation for improved transient response, line regulation, and current limit
- 52 kHz internal oscillator
- Soft-start function reduces in-rush current during start-up
- Output switch protected by current limit, under-voltage lockout, and thermal shutdown

Typical Applications

- Simple boost regulator
- Flyback and forward regulators
- Multiple-output regulator

Typical Application



Ordering Information

Package Type	NSC Package Drawing	Order Number	Temperature Range
5-Lead TO-220, Straight Leads	T05A	LM2577T-12, LM2577T-15, or LM2577T-ADJ	-40°C ≤ T_J ≤ + 125°C
5-Lead TO-220 Bent, Staggered Leads	T05D	LM2577T-12 Flow LB03, LM2577T-15 Flow LB03, or LM2577T-ADJ Flow LB03	
16-Pin Molded DIP	N16A	LM2577N-12, LM2577N-15, or LM2577N-ADJ	
24-Pin Surface Mount	M24B	LM2577M-12, LM2577M-15, or LM2577M-ADJ	
4-Pin TO-3	K04A	LM1577K-12/883, LM1577K-15/883, or LM1577K-ADJ/883	-55°C ≤ T_J ≤ + 150°C